IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A ~~controller~~ method for changing an amplification band in a Raman amplifier system, comprising the steps of:

~~having a plurality of pump lasers that produce light centered at different wavelengths so as to provide WDM pump light, comprising:~~

~~a memory configured to hold computer readable instructions and data, said data being arranged in a plurality of sets of drive conditions for said plurality of pump lasers, each of said sets of drive conditions corresponding to a different target profile, each different target profile including multiple wavelength samples distributed across an amplification bandwidth; and~~

~~a processor having an interface configured to communicate with external devices, said processor configured to execute said computer readable instructions and implement a target setting mechanism and a parameter application mechanism, wherein~~

~~said target setting mechanism is configured to identify a target profile and corresponding operating parameters for the plurality of pump lasers to achieve the target profile, said operating parameters including a set of said plurality of sets of drive conditions, said target profile relating to an operational condition provided to said processor from at least one of said external devices, said target profile having multiple samples and being at least one of~~

~~a predetermined amplification profile having the multiple samples specified across the amplification bandwidth, said amplification bandwidth being a contiguous bandwidth at least as large as a signal bandwidth of a WDM optical signal that is amplified by said Raman amplifier while propagating through an optical fiber, and~~

~~an output signal level profile having the multiple samples specified across said amplification bandwidth,~~

~~said parameter application mechanism is configured to output at least one control signal that defines said operating parameters so as to adjust an amount of light introduced into said optical fiber from said plurality of pump lasers, and~~

~~said target setting mechanism is configured to compare the multiple samples of said target profile with corresponding samples obtained by monitoring an actual profile so as to determine whether each sub-band of a plurality of sub-bands of said actual profile is within a predetermined tolerance of said target profile across said amplification bandwidth so that said~~

~~controller can make an adjustment to any of the plurality subbands of said actual profile that is not within said predetermined tolerance~~.

providing at least two light sources configured to produce respective multimode laser lights having different central wavelengths so as to amplify an optical signal in a Raman gain medium within a first amplification band; and

controllably changing an operating state of at least one of said at least two light sources so as to change to a second amplification band in said Raman gain medium, a wavelength span of said second amplification band being different than for said first amplification band.

2. (New) The method of Claim 1, wherein:

said providing step includes

providing more than two of said multimode laser light sources; and

said controllably changing step includes

actuating a subset of said more than two multimode laser light sources to be operating at a shorter wavelength side with respect to a middle wavelength between a shortest wavelength and a longest wavelength to be greater than another subset of said multimode laser light sources actuated to operate on a longer wavelength side of said middle wavelength.

3. (New) The method of Claim 2, further comprising steps of:

coupling to a beam combiner combined light from said more than two of said multimode laser light sources, said combined light being sufficient to produce a predetermined amplification profile in said Raman gain medium; and

coupling a multimode laser light from at least one additional multimode laser light source to an otherwise unused port of said beam combiner so that said at least one additional multimode laser light source may be controllably actuated to cause a change in bandwidth to the second amplification band.

4. (New) The method of Claim 2, wherein:

said controllably changing step includes

selectively actuating said more than two of said multimode laser light sources from pre-installed multimode pump sources which produce amplification profiles that

contribute to a Raman gain profile that is present in both the first amplification band and the second amplification band.

5. (New) The method of Claim 2, wherein:

said providing step includes providing said more than two of said multimode laser light sources so as to separate respective wavelength intervals between said laser lights to be in an inclusive range of 6nm through 35nm.

6. (New) The method of Claim 2, wherein:

a shortest wavelength of the multimode laser light sources on the longer wavelength side being spaced apart from a longest wavelength of the multimode laser light sources on the shorter wavelength side by an amount larger than a largest wavelength difference between any two wavelengths of the multimode laser light sources on the short wavelength side; and

said controllably changing step includes selectively activating the multimode laser light sources that correspond with the longest and shortest wavelengths.

7. (New) The method of Claim 1, wherein:

said providing step includes

providing more than two of said multimode laser light sources; and

said controllably changing step includes

actuating a first subset of said multimode laser light sources to be operating at a shorter wavelength side with respect to a middle wavelength and a second subset of said multimode laser light sources to be operating at a longer wavelength side, wherein

a shortest central wavelength of said multimode laser light sources on the longer wavelength side being separated in wavelength by a larger amount from the longest wavelength of the short wavelength side than a largest wavelength difference between adjacent wavelengths on the short wavelength side, and

changing to said second amplification band by adjusting the larger amount.

8. (New) The method of Claim 7, wherein:

said step of providing more than two of said multimode laser light sources includes providing only one multimode laser light source to produce a multimode laser light having only one central wavelength on the longer wavelength side.

9. (New) The method of Claim 7, wherein:

said step of providing more than two of said multimode laser light sources includes providing two multimode laser light sources to produce two central wavelengths on the longer wavelength side.

10. (New) The method of Claim 7, wherein:

said step of providing more than two of said multimode laser light sources includes providing a plurality of multimode laser light sources that provide a corresponding plurality of central wavelengths on the shorter wavelength side, and respective intervals between central wavelengths on the shorter wavelength side being about 1 THz.

11. (New) The method of Claim 7, wherein:

said providing step includes providing a plurality of multimode laser light sources that produce central wavelengths at respective intervals in an inclusive range of 6 nm through 35 nm.

12. (New) The method of Claim 1, further comprising steps of:

connecting a first one of said at least two light sources to a beam combiner along with a third light source so as to provide a combined beam for providing pump energy for said Raman gain medium; wherein

when said controllably changing step is performed, a multimode laser light from a second of said at least two light sources is applied to said Raman gain medium so as to change to said second amplification band.

13. (New) The method of Claim 1, wherein:

said providing step includes providing a light source as a pre-installed light source that is configured to produce an amplification profile in said Raman gain medium that creates at least a portion of an amplification profile in both the first amplification band and the second amplification band; and

said providing step further includes providing another pre-installed light source that is actuated to create at least a portion of the amplification profile for the second amplification band.

14. (New) The method of Claim 1, wherein:

said controllably changing step includes at least one of

turning off a light source, and

turning on a light source.

15. (New) A pump source for a Raman amplifier comprising:

a light source configured to produce a multimode laser light having a predetermined central wavelength, said multimode laser light being configured to produce an amplification profile in a Raman gain medium when applied thereto, said amplification profile being in a first amplification bandwidth; and

a controller configured to change an operating status of the light source when said controller causes a change from said first amplification bandwidth to a second amplification bandwidth.

16. (New) The pump source of Claim15, wherein:

said operational status is one of an on-status and an off-status.

17. (New) The pump source of Claim 16, further comprising:

a beam combiner that includes an input port configured to have connected thereto another pump source configured to combine optical outputs from a plurality of pump sources and expand the first amplification bandwidth in the Raman gain medium when said another pump source is activated.

18. (New) The pump source of Claim 16, further comprising:

a first beam combiner configured to combine the multimode laser light from the light source with multimode light having a different central wavelength from a second light source so as to produce a first combined pump light; and

a second beam combiner configured to combine the first combined pump light with another multimode laser light produced from a third light source, wherein

said another multimode laser light having a central wavelength that is longer than respective central wavelengths of the multimode laser light from the light source and the second light source.

19. (New) A Raman amplification system, comprising:

a pump source that includes a light source configured to produce a multimode laser light having a predetermined central wavelength, said multimode laser light being configured to produce an amplification profile in a Raman gain medium when applied thereto, said amplification profile being in a first amplification bandwidth; and

a controller configured to change an operating status of the light source when said controller causes a change from said first amplification bandwidth to a second amplification bandwidth.

20. (New) The Raman amplification system of Claim 19, wherein:

said operational status is one of an on-status and an off-status.

21. (New) The Raman amplification system of Claim 20, further comprising:

a beam combiner that includes an input port configured to have connected thereto another pump source configured to combine optical outputs from a plurality of pump sources and expand the first amplification bandwidth in the Raman gain medium when said another pump source is activated.

22. (New) The Raman amplification system of Claim 20, further comprising:

a first beam combiner configured to combine the multimode laser light from the light source with multimode light having a different central wavelength from a second light source so as to produce a first combined pump light; and

a second beam combiner configured to combine the first combined pump light with another multimode laser light produced from a third light source, wherein

said another multimode laser light having a central wavelength that is longer than respective central wavelengths of the multimode laser light from the light source and the second light source.